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Medical Supervision For Employees Exposed to Methyl Bromide

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Excessive exposure of man to methyl bromide can lead to serious illness and even death. This chemical is particularly hazardous because, (1) it has no odor, (2) the first symptoms of acute illness can be delayed for at least two hours and sometimes for more than 2 days, (3) long-term low-level exposure can result in both short-term and permanent damage to the heart, lungs, nerves, eyes, liver and kidneys, and (5) excessive exposure can result in death.

Medical Supervision is not to be required in the following situations:

- (1) Use of this pesticide in a manner inconsistent with the label so that inadequate facilities are used, improper equipment is used, or unsafe work practices occur shall not be allowed and permits are not to be issued and any permits in effect will be cancelled. Medical supervision shall not be considered to allow such an operation to continue.
- (2) Occasional use of small amounts of this pesticide particularly out-of-doors does not often result in over-exposures. For such use medical supervision is not necessary.
- (3) For an operation that uses significant quantities of this pesticide, but has in effect a high quality safety program, with equipment and facilities in full compliance with all State regulations, and with at least a one-year record of frequent work-place measurements for methyl bromide levels, all showing safe levels, although periodic medical monitoring of blood bromine levels of the employees who are actually involved in the application process is desirable as a follow-up of their initial physical examination, medical supervision and monitoring is not required.

Medical Supervision may be required by the Director or Commissioner:

- (1) For an employer who uses significant quantities of methyl bromide but who has an operation in need of some upgrading, continued operation may be allowed with complete medical supervision for employees if (a) the employer has agreed that within a two-year period he will upgrade his facility to comply with all appropriate safety regulations, (b) he will develop a complete safety program, and (c) he will develop a record of periodic monitoring of the workplace with appropriate equipment to show that excessive exposure of employees to methyl bromide are not occurring.

Guidelines for Complete Medical Supervision

For Methyl Bromide Exposures

The employer shall select a physician who shall be informed of the nature and extent of exposures to this pesticide which might occur to the employee. All employees who might conceivably be excessively exposed shall be sent to the physician for a medical examination. The examination shall include: (1) quantitative assessments of the cardiovascular, respiratory, and neurological systems

(including a detailed mental status evaluation) (2) ear, nose, throat, and neuro-opthalamologic examinations (3) hepatic function, renal function, and metabolic (cholesterol and lipoprotein) studies, and (4) the drawing of a blood sample for a blood bromine level.

Gross abnormalities of any of the above shall be considered by the physician as cause for not permitting work where methyl bromide exposure might occur. The physician shall transmit to the employer a written statement that the employee is fit to work at the job or not fit to work at the job without giving any reasons with the exception of conveying information on blood bromine levels.

Guidelines For Monitoring of Blood Bromine Levels

Blood samples shall be drawn and submitted for an analysis with levels of bromine to be reported in mg percent values.

Any employee having consistent blood bromine levels of 1 mg percent or less shall be considered as not having been excessively exposed.

For any values above 1 mg percent of bromide, it shall be assumed that excessive exposure has occurred and the workplace and work practices of that employee shall be evaluated unless the physician reports in writing that this level is apparently not excessive for this employee.

For any values above 4 mg percent of bromine, the employee shall be removed from any job where exposure might occur until his blood bromine levels return to 1 mg percent or until the physician states in writing that this employee may again work at a job where exposure might occur.

When medical monitoring begins, all employees scheduled for testing shall have blood samples drawn once a month for three months. For each employee who has blood levels of 1 mg percent of bromine or less for three consecutive months while working at a job where exposure might occur, the physician may extend the test interval as he considers appropriate unless there is a significant change in a job assignment in which exposure might occur.